

Docket No.: 2455-4602

Ser. No. 09/314,637

5. (Amended) The system of claim 1, further comprising:
an utterance verification processor that identifies out-of-vocabulary utterances and
utterances that are poorly recognized in unconstrained input speech.
6. (Amended) The system of claim 1, further comprising:
a validity database that stores a numeric grammar comprising rules relating to naturals,
restarts, alphabets, city/country, numeric phrases and out-of-vocabulary classes; and
a string validation processor that outputs validity information based on a comparison of
the sequence of digits with the numeric grammar.
9. (Amended) The system of claim 1, wherein:
the numeric understanding processor recognizing restart, city/country and miscellaneous
phrases in the string of words.
10. (Amended) A method, comprising the steps of:
receiving unconstrained input speech as a string of words that can include a numeric
language comprising a set of words or phrases relevant for interpreting an understanding a set of
number strings; and
converting the string of words into a sequence of digits.

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Please add the following new Claims:

11. (NEW) A system comprising,
a feature extractor for receiving a speech input signal and outputting cepstral vectors
representative of the speech input signal;
speech recognition apparatus responsive to the cepstral vectors, an acoustic model data
base and a language model database and producing a set of words that include a numeric
language;
a numeric understanding processor converting the strings of words and outputting a
sequence of digits based on a set of rules relating to classes of phrases;
a validation database for storing valid credit card and telephone numbers;
a string validation processor for determining whether the sequence of digits identified in
the numeric language is a valid existing credit card or telephone number; and
an utterance processor providing a dialogue manager with a verification measure of
confidence for call confirmation, repair or disambiguation
12. (NEW) A method comprising
receiving a speech input signal and extracting cepstral vectors representative of the
speech input signal;
producing a set of words based upon the cepstral vectors, an acoustic model data base and
a language model database and including a numeric language;
converting the strings of words and outputting a sequence of digits based on a set of rules
relating to classes of phrases,
storing valid credit card and telephone numbers in a validation database